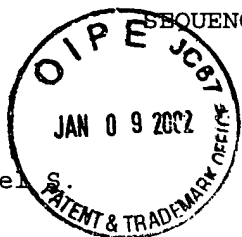


SEQUENCE LISTING



<110> Nolan, Garry P
Rothenberg, Michael S.

<120> METHODS FOR SCREENING FOR TRANSDOMINANT INTRACELLULAR

EFFECTOR PEPTIDES AND RNA MOLECULES

<130> A-64260-4/RMS/AMS

<140> US 09/919,635

<141> 2001-07-31

<150> US 09/727,715

<151> 2000-11-28

<150> US 08/963,368

<151> 1997-11-03

<150> US 08/589,109

<151> 1996-01-23

<150> US 08/589,911

<151> 1996-01-23

<150> US 08/789,333

<151> 1997-01-23

<150> US 08/787,738

<151> 1997-01-23

<160> 102

<170> PatentIn Ver. 2.0

<210> 1

<211> 48

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: random
sequence.

<220>

<221> misc_feature

<222> (7)..(35)

<223> The n(s) at positions

7,8,10,11,13,14,16,17,19,20,22,23,25,26,28,29,31,3

2,34,35 can be any nucleic acid.

<400> 1

atgggannkn nknnknknkn knnknknknk nnknknkgggg ggcccccc

48

<210> 2

<211> 16

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: random
sequence.

<220>

<221> VARIANT

<222> (3)..(12)

<223> The Xaa(s) at positions 3-12 can be any amino
acid.

<400> 2

Met Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Pro Pro

1

5

10

15

<210> 3

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: molecular

flexibility/stability sequence.

<400> 3

Gly Gly Pro Pro

1

<210> 4

<211> 61

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: coiled-coil
structure.

<400> 4

Met Gly Cys Ala Ala Leu Glu Ser Glu Val Ser Ala Leu Glu Ser Glu

1

5

10

15

Val Ala Ser Leu Glu Ser Glu Val Ala Ala Leu Gly Arg Gly Asp Met

20

25

30

Pro Leu Ala Ala Val Lys Ser Lys Leu Ser Ala Val Lys Ser Lys Leu

35

40

45

Ala Ser Val Lys Ser Lys Leu Ala Ala Cys Gly Pro Pro

50

55

60

<210> 5

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: loop
structure.

<400> 5

Gly Arg Gly Asp Met Pro

1

5

<210> 6

<211> 69

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: minibody
presentation structure.

<400> 6

Met Gly Arg Asn Ser Gln Ala Thr Ser Gly Phe Thr Phe Ser His Phe

1 5 10 15

Tyr Met Glu Trp Val Arg Gly Gly Glu Tyr Ile Ala Ala Ser Arg His

20 25 30

Lys His Asn Lys Tyr Thr Thr Glu Tyr Ser Ala Ser Val Lys Gly Arg

35 40 45

Tyr Ile Val Ser Arg Asp Thr Ser Gln Ser Ile Leu Tyr Leu Gln Lys

50 55 60

Lys Lys Gly Pro Pro

65

<210> 7

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nuclear
localization sequence.

<400> 7

Pro Lys Lys Lys Arg Lys Val

1

5

<210> 8

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nuclear
localization sequence.

<400> 8

Ala Arg Arg Arg Arg Pro

1

5

<210> 9

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nuclear
localization sequence.

<400> 9

Glu Glu Val Gln Arg Lys Arg Gln Lys Leu

1 5 10

<210> 10

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nuclear
localization sequence.

<400> 10

Glu Glu Lys Arg Lys Arg Thr Tyr Glu

1 5

<210> 11

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nuclear
localization sequence.

<400> 11

Ala Val Lys Arg Pro Ala Ala Thr Lys Lys Ala Gly Gln Ala Lys Lys

1 5 10 15

Lys Lys Leu Asp

20

<210> 12

<211> 31

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: signal
sequence.

<400> 12

Met Ala Ser Pro Leu Thr Arg Phe Leu Ser Leu Asn Leu Leu Leu Leu

1 5 10 15

Gly Glu Ser Ile Leu Gly Ser Gly Glu Ala Lys Pro Gln Ala Pro

20

25

30

<210> 13

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: signal
sequence.

<400> 13

Met Ser Ser Phe Gly Tyr Arg Thr Leu Thr Val Ala Leu Phe Thr Leu

1

5

10

15

Ile Cys Cys Pro Gly

20

<210> 14

<211> 51

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: transmembrane
domain sequence.

<400> 14

Pro Gln Arg Pro Glu Asp Cys Arg Pro Arg Gly Ser Val Lys Gly Thr

1 5 10 15

Gly Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro Leu Ala Gly

20 25 30

Ile Cys Val Ala Leu Leu Leu Ser Leu Ile Ile Thr Leu Ile Cys Tyr

35 40 45

His Ser Arg

50

<210> 15

<211> 33

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: transmembrane
sequence.

<400> 15

Met Val Ile Ile Val Thr Val Val Ser Val Leu Leu Ser Leu Phe Val

1 5 10 15

Thr Ser Val Leu Leu Cys Phe Ile Phe Gly Gln His Leu Arg Gln Gln

20 25 30

Arg

<210> 16

<211> 37

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: membrane
anchor sequence.

<400> 16

Pro Asn Lys Gly Ser Gly Thr Thr Ser Gly Thr Thr Arg Leu Leu Ser

1 5 10 15

Gly His Thr Cys Phe Thr Leu Thr Gly Leu Leu Gly Thr Leu Val Thr

20

25

30

Met Gly Leu Leu Thr

35

<210> 17

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:myristylation
sequence.

<400> 17

Met Gly Ser Ser Lys Ser Lys Pro Lys Asp Pro Ser Gln Arg

1

5

10

<210> 18

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: palmitoylation
sequence.

<400> 18

Leu Leu Gln Arg Leu Phe Ser Arg Gln Asp Cys Cys Gly Asn Cys Ser

1 5 10 15

Asp Ser Glu Glu Glu Leu Pro Thr Arg Leu

20 25

<210> 19

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: palmitoylation
sequence.

<400> 19

Lys Gln Phe Arg Asn Cys Met Leu Thr Ser Leu Cys Cys Gly Lys Asn

1 5 10 15

Pro Leu Gly Asp

20

<210> 20

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: palmitoylation
sequence.

<400> 20

Leu Asn Pro Pro Asp Glu Ser Gly Pro Gly Cys Met Ser Cys Lys Cys

1

5

10

15

Val Leu Ser

<210> 21

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: lysosomal

degradation sequence.

<400> 21

Lys Phe Glu Arg Gln

1 5

<210> 22

<211> 36

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: lysosomal
membrane sequence.

<400> 22

Met Leu Ile Pro Ile Ala Gly Phe Phe Ala Leu Ala Gly Leu Val Leu

1 5 10 15

Ile Val Leu Ile Ala Tyr Leu Ile Gly Arg Lys Arg Ser His Ala Gly

20 25 30

Tyr Gln Thr Ile

35

<210> 23

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: lysosomal
degradation sequence.

<400> 23

Leu Val Pro Ile Ala Val Gly Ala Ala Leu Ala Gly Val Leu Ile Leu

1 5 10 15

Val Leu Leu Ala Tyr Phe Ile Gly Leu Lys His His His Ala Gly Tyr

20 25 30

Glu Gln Phe

35

<210> 24

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: mitochondrial
matrix sequence.

<400> 24

Met Leu Arg Thr Ser Ser Leu Phe Thr Arg Arg Val Gln Pro Ser Leu

1 5 10 15

Phe Ser Arg Asn Ile Leu Arg Leu Gln Ser Thr

20 25

<210> 25

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: mitochondrial
inner membrane sequence.

<400> 25

Met Leu Ser Leu Arg Gln Ser Ile Arg Phe Phe Lys Pro Ala Thr Arg

1 5 10 15

Thr Leu Cys Ser Ser Arg Tyr Leu Leu

20

25

<210> 26

<211> 64

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: mitochondrial
intermembrane sequence.

<400> 26

Met Phe Ser Met Leu Ser Lys Arg Trp Ala Gln Arg Thr Leu Ser Lys

1

5

10

15

Ser Phe Tyr Ser Thr Ala Thr Gly Ala Ala Ser Lys Ser Gly Lys Leu

20

25

30

Thr Gln Lys Leu Val Thr Ala Gly Val Ala Ala Ala Gly Ile Thr Ala

35

40

45

Ser Thr Leu Leu Tyr Ala Asp Ser Leu Thr Ala Glu Ala Met Thr Ala

50

55

60

<210> 27

<211> 41

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: mitochondrial
outer membrane sequence.

<400> 27

Met Lys Ser Phe Ile Thr Arg Asn Lys Thr Ala Ile Leu Ala Thr Val

1 5 10 15

Ala Ala Thr Gly Thr Ala Ile Gly Ala Tyr Tyr Tyr Tyr Asn Gln Leu

20 25 30

Gln Gln Gln Gln Gln Arg Gly Lys Lys

35 40

<210> 28

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: endoplasmic
reticulum sequence.

<400> 28

Lys Asp Glu Leu

1

<210> 29

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: endoplasmic
reticulum sequence.

<400> 29

Leu Tyr Leu Ser Arg Arg Ser Phe Ile Asp Glu Lys Lys Met Pro

1

5

10

15

<210> 30

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:farnesylation
sequence.

<400> 30

Leu Asn Pro Pro Asp Glu Ser Gly Pro Gly Cys Met Ser Cys Lys Cys

1

5

10

15

Val Leu Ser

<210> 31

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
geranylgeranylation sequence.

<400> 31

Leu Thr Glu Pro Thr Gln Pro Thr Arg Asn Gln Cys Cys Ser Asn

1

5

10

15

<210> 32

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:destruction
sequence.

<400> 32

Arg Thr Ala Leu Gly Asp Ile Gly Asn

1

5

<210> 33

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:secretory
sequence.

<400> 33

Met Tyr Arg Met Gln Leu Leu Ser Cys Ile Ala Leu Ser Leu Ala Leu

1 5 10 15

Val Thr Asn Ser

20

<210> 34

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: secretory
sequence.

<400> 34

Met Ala Thr Gly Ser Arg Thr Ser Leu Leu Leu Ala Phe Gly Leu Leu

1 5 10 15

Cys Leu Pro Trp Leu Gln Glu Gly Ser Ala Phe Pro Thr

20 25

<210> 35

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: secretory
sequence.

<400> 35

Met Ala Leu Trp Met Arg Leu Leu Pro Leu Leu Ala Leu Leu Ala Leu

1

5

10

15

Trp Gly Pro Asp Pro Ala Ala Ala Phe Val Asn

20

25

<210> 36

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: secretory
sequence.

<400> 36

Met Lys Ala Lys Leu Leu Val Leu Leu Tyr Ala Phe Val Ala Gly Asp

1 5 10 15

Gln Ile

<210> 37

<211> 24

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:secretory
sequence.

<400> 37

Met Gly Leu Thr Ser Gln Leu Leu Pro Pro Leu Phe Phe Leu Leu Ala

1 5 10 15

Cys Ala Gly Asn Phe Val His Gly

20

<210> 38

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: stability
sequence.

<220>

<221> VARIANT

<222> (3)..(6)

<223> The Xaa(s) at positions 3-6 can be any amino acid.

<400> 38

Met Gly Xaa Xaa Xaa Xaa Gly Gly Pro Pro

1 5 10

<210> 39

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: linker
sequence.

<400> 39

Gly Ser Gly Gly Ser

1 5

<210> 40

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: linker
sequence.

<400> 40

Gly Gly Gly Ser

1

<210> 41

<211> 124

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<220>

<221> VARIANT

<222> (115)..(120)

<223> The Xaa(s) at postions 115-120 can be any amino
acid.

<400> 41

Met Arg Pro Leu Ala Gly Gly Glu His Thr Met Ala Ser Pro Leu Thr

1 5 10 15

Arg Phe Leu Ser Leu Asn Leu Leu Leu Leu Gly Glu Ser Ile Ile Leu

20 25 30

Gly Ser Gly Pro Gln Arg Pro Glu Asp Cys Arg Pro Arg Gly Ser Val

35 40 45

Lys Gly Thr Gly Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro

50 55 60

Leu Ala Gly Ile Cys Val Ala Leu Leu Leu Ser Leu Ile Ile Thr Leu

65 70 75 80

Ile Cys Tyr His Ser Arg Gly Ser Gly Gly Ser Gly Ser Gly Gly Ser

85 90 95

Gly Ser Gly Gly Ser Gly Ser Gly Gly Ser Gly Ser Gly Gly Ser Gly

100

105

110

Gly Gly Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Pro Pro

115

120

<210> 42

<211> 173

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic.

<220>

<221> VARIANT

<222> (140)..(145)

<223> The Xaa(s) at positions 140-145 can be any amino
acid.

<400> 42

Met Arg Pro Leu Ala Gly Gly Glu His Thr Met Ala Ser Pro Leu Thr

1

5

10

15

Arg Phe Leu Ser Leu Asn Leu Leu Leu Leu Gly Glu Ser Ile Ile Leu

20

25

30

Gly Ser Gly Pro Gln Arg Pro Glu Asp Cys Arg Pro Arg Gly Ser Val

35

40

45

Lys Gly Thr Gly Leu Asp Phe Ala Cys Asp Ile Tyr Ile Trp Ala Pro

50

55

60

Leu Ala Gly Ile Cys Val Ala Leu Leu Leu Ser Leu Ile Ile Thr Leu

65

70

75

80

Ile Cys Tyr His Ser Arg Gly Ser Gly Gly Ser Gly Ser Gly Gly Ser

85

90

95

Gly Ser Gly Gly Ser Gly Ser Gly Gly Ser Gly Ser Gly Gly Ser Gly

100

105

110

Gly Gly Cys Ala Ala Leu Glu Ser Glu Val Ser Ala Leu Glu Ser Glu

115

120

125

Val Ala Ser Leu Glu Ser Glu Val Ala Ala Leu Xaa Xaa Xaa Xaa Xaa

130

135

140

Xaa Leu Ala Ala Val Lys Ser Lys Leu Ser Ala Val Lys Ser Lys Leu

145

150

155

160

Ala Ser Val Lys Ser Lys Leu Ala Ala Cys Gly Pro Pro

165

170

<210> 43

<211> 127

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic.

<220>

<221> VARIANT

<222> (38)..(43)

<223> The Xaa(s) at positions 38-43 can be any amino
acid.

<400> 43

Met Arg Pro Leu Ala Gly Gly Glu His Thr Met Ala Ser Pro Leu Thr

1

5

10

15

Arg Phe Leu Ser Leu Asn Leu Leu Leu Leu Gly Glu Ser Ile Ile Leu

20

25

30

Gly Ser Gly Gly Gly Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Ser Gly Gly

35

40

45

Ser Gly Ser Gly Gly Ser Gly Ser Gly Gly Ser Gly Ser Gly Gly Ser

50

55

60

Gly Ser Gly Gly Ser Gly Gly Gly Pro Gln Arg Pro Glu Asp Cys Arg

65

70

75

80

Pro Arg Gly Ser Val Lys Gly Thr Gly Leu Asp Phe Ala Cys Asp Ile

85

90

95

Tyr Ile Trp Ala Pro Leu Ala Gly Ile Cys Val Ala Leu Leu Leu Ser

100

105

110

Leu Ile Ile Thr Leu Ile Cys Tyr His Ser Arg Gly Gly Pro Pro

115

120

125

<210> 44

<211> 177

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<220>

<221> VARIANT

<222> (63)..(68)

<223> The Xaa(s) at positions 63-68 can be any amino
acid.

<400> 44

Met Arg Pro Leu Ala Gly Gly Glu His Thr Met Ala Ser Pro Leu Thr
1 5 10 15

Arg Phe Leu Ser Leu Asn Leu Leu Leu Leu Gly Glu Ser Ile Ile Leu
20 25 30

Gly Ser Gly Gly Gly Cys Ala Ala Leu Glu Ser Glu Val Ser Ala Leu
35 40 45

Glu Ser Glu Val Ala Ser Leu Glu Ser Glu Val Ala Ala Leu Xaa Xaa
50 55 60

Xaa Xaa Xaa Xaa Leu Ala Ala Val Lys Ser Lys Leu Ser Ala Val Lys
65 70 75 80

Ser Lys Leu Ala Ser Val Lys Ser Lys Leu Ala Ala Cys Gly Gly Ser
85 90 95

Gly Gly Ser Gly Ser Gly Gly Ser Gly Ser Gly Gly Ser Gly Ser Gly

100

105

110

Gly Ser Gly Ser Gly Gly Ser Gly Gly Gly Pro Gln Arg Pro Glu Asp

115

120

125

Cys Arg Pro Arg Gly Ser Val Lys Gly Thr Gly Leu Asp Phe Ala Cys

130

135

140

Asp Ile Tyr Ile Trp Ala Pro Leu Ala Gly Ile Cys Val Ala Leu Leu

145

150

155

160

Leu Ser Leu Ile Ile Thr Leu Ile Cys Tyr His Ser Arg Gly Gly Pro

165

170

175

Pro

<210> 45

<211> 47

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<220>

<221> VARIANT

<222> (38)..(43)

<223> The Xaa(s) at positions 38-43 can be any amino
acid.

<400> 45

Met Arg Pro Leu Ala Gly Gly Glu His Arg Met Ala Ser Pro Leu Thr

1

5

10

15

Arg Phe Leu Ser Leu Asn Leu Leu Leu Leu Gly Glu Ser Ile Ile Leu

20

25

30

Gly Ser Gly Gly Gly Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Pro Pro

35

40

45

<210> 46

<211> 95

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<220>

<221> VARIANT

<222> (62)..(67)

<223> The Xaa(s) at positions 62-67 can be any amino
acid.

<400> 46

Met Arg Pro Leu Ala Gly Gly Glu His Thr Met Ala Ser Pro Leu Thr

1 5 10 15

Arg Phe Leu Ser Leu Asn Leu Leu Leu Leu Gly Glu Ser Ile Ile Leu

20 25 30

Gly Ser Gly Gly Gly Ala Ala Leu Glu Ser Glu Val Ser Ala Leu Glu

35 40 45

Ser Glu Val Ala Ser Leu Glu Ser Glu Val Ala Ala Leu Xaa Xaa Xaa

50 55 60

Xaa Xaa Xaa Leu Ala Ala Val Lys Ser Lys Leu Ser Ala Val Lys Ser

65 70 75 80

Lys Leu Ala Ser Val Lys Ser Lys Leu Ala Ala Cys Gly Pro Pro

85 90 95

<210> 47

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<220>

<221> VARIANT

<222> (1)..(9)

<223> The Xaa(s) at positions 1-3, 6, 8, 9 can be any
amino acid.

<400> 47

Xaa Xaa Xaa Pro Pro Xaa Pro Xaa Xaa

1

5

<210> 48

<211> 63

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<220>

<221> misc_feature

<222> (7)..(20)

<223> The n(s) at positions 7,8,10,11,13,14,16,17,19,20
can be any nucleic acid.

<400> 48

atgggcnnkn nknknknkn kagacctctg cctccasbkg ggsbksbkgg aggcccacct 60
taa 63

<210> 49

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<220>

<221> VARIANT

<222> (3)..(16)

<223> The Xaa(s) at postions 3-7, 13,15,16 can be any
amino acid.

<400> 49

Met Gly Xaa Xaa Xaa Xaa Xaa Arg Pro Leu Pro Pro Xaa Pro Xaa Xaa

1

5

10

15

Gly Gly Pro Pro

20

<210> 50

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: random
sequence.

<220>

<221> VARIANT

<222> (2)..(11)

<223> The Xaa(s) at postions 2-11 can be any amino acid.

<400> 50

Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys

1

5

10

<210> 51

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: epitope tag
sequence.

<400> 51

Met Gly Gly Gly Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Gly Ser Leu

1

5

10

15

Glx

<210> 52

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PKCa
translocation inhibitor sequence.

<400> 52

Gly Lys Gln Lys Thr Lys Thr Ile Lys Gly Pro Pro

1

5

10

<210> 53

<211> 92

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: random
sequence.

<220>

<221> misc_feature

<222> (28)..(56)

<223> The n(s) at postions

28,29,31,32,34,35,37,38,40,41,43,44,46,47,49,50,52

,53,55,56 can be any nucleic acid.

<400> 53

gcttagcaag atctctacgg tggaccknnk nnknnknnkn nknnknnknn knnknnccccc 60

actcccatgg tcctacgtac caccacactg gg

92

<210> 54

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 54

gcttagcaag atctgtgtgt cagttagggt gtgg

34

<210> 55

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: random
sequence.

<220>

<221> misc_feature

<222> (23)..(24)

<223> The n(s) at positions 23-24 can be any nucleic
acid.

<400> 55

ctggagaacc aggaccatgg gcnnkgggcc cccttaaacc attaaat

47

<210> 56

<211> 71

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: random
sequence.

<220>

<221> misc_feature

<222> (23) .. (48)

<223> The n(s) at positions

23,24,26,27,29,30,38,39,44,45,47,48 can be any
nucleic acid.

<400> 56

ctggagaacc aggaccatgg gcnnknnknn kcctcccnk cctnnknnkg ggccccctta 60
aaccattaaa t 71

<210> 57

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 57

tcatgcatcc aatttaatgg tttaag

26

<210> 58

<211> 4950

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: retroviral

vector with presentation construct sequence.

<400> 58

tgaaagaccc cacctgtagg tttggcaagc tagcttaagt aacgccattt tgcaaggcat 60
ggaaaataca taactgagaa tagagaagtt cagatcaagg ttaggaacag agagacagca 120
gaatatgggc caaacaggat atctgtggta agcagttcct gccccggctc agggccaaga 180
acagatggtc cccagatgcg gtccccccct cagcagtttc tagagaacca tcagatgttt 240
ccagggtgcc ccaaggacct gaaaatgacc ctgtgcctta tttgaactaa ccaatcagtt 300
cgcttctcgc ttctgttcgc gcgcttctgc tccccgagct caataaaaga gccacaacc 360
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<210> 59

<211> 74

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 59

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ttaaaccatt aaat 74

<210> 60

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: anti-apoptosis
sequence.

<400> 60

Met Gly Lys Arg Lys Gly Asp Glu Val Asp Gly Val Gly Pro Pro
1 5 10 15

<210> 61

<211> 74

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: random
sequence.

<220>

<221> misc_feature

<222> (35)..(48)

<223> The n(s) at positions 35,36,38,39,41,42,47,48 can
be any nucleic acid.

<400> 61

ctggagaacc aggaccatgg gcaagagaaa gggcnknknk nnkgaknnkg tggggccccc 60
ttaaaccatt aaat 74

<210> 62

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: random
sequence.

<220>

<221> VARIANT

<222> (7)..(11)

<223> The Xaa(s) at postions 7-9,11 can be any amino
acid.

<220>

<221> VARIANT

<222> (10)

<223> The amino acid at position 10 can be Aspartic acid
or Glutamic acid.

<400> 62

Met Gly Lys Arg Lys Gly Xaa Xaa Xaa Asp Xaa Val Gly Pro Pro

1

5

10

15

<210> 63

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 63

tcatgcatcc aatttaatgg tttaag

26

<210> 64

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 64

gatactccct ttatccag

18

<210> 65

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 65

ctacaggtgg ggtctttc

18

<210> 66

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 66

atgggcaaga gaaagggcac ggcgtctgat gctgtggggc ccccttaa

48

<210> 67

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 67

Thr Ala Ser Asp Ala

1

5

<210> 68

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 68

atgggcaaga gaaagggcta tccttctgat gtggtggggc ccccttaa

48

<210> 69

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 69

Tyr Pro Ser Asp Val

1

5

<210> 70

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 70

atggggcaaga gaaagggcac gccttcggat atggtggggc ccccttaa

48

<210> 71

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 71

Thr Pro Ser Asp Met

1 5

<210> 72

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 72

atgggcaaga gaaagggcac ggcttctgat cttgtggggc ccccttaa

48

<210> 73

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 73

Thr Ala Ser Asp Leu

1

5

<210> 74

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 74

atgggcaaga gaaagggctc tgatagggat attgtggggc ccccttaa

48

<210> 75

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 75

Ser Asp Arg Asp Ile

1 5

<210> 76

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 76

atgggcaaga gaaagggctg gttgctagag tttgtggggc ccccttaa

48

<210> 77

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 77

Trp Leu Leu Glu Phe

1 5

<210> 78

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 78

atgggcaaga gaaagggctg gttgatagag tttgtggggc ccccttaa

48

<210> 79

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 79

Trp Leu Ile Glu Phe

1 5

<210> 80

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<221> SITE

<222> (1) .. (6)

<223> The Xaa(s) at positions 1-6 can be any amino acid.

<220>

<223> Description of Artificial Sequence: synthetic

<400> 80

Xaa Xaa Xaa Xaa Xaa Xaa

1 5

<210> 81

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 81

Ser Tyr Gln Asp Leu

1 5

<210> 82

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<220>

<221> VARIANT

<222> (3) .. (12)

<223> The Xaa(s) at positions 3-12 can be any amino

acid.

<400> 82

Met Gly Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Gly Gly Pro Pro

1

5

10

15

<210> 83

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 83

ctgacacaca ttccacag

18

<210> 84

<211> 122

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 84

ggatccagtg tgggtggtacg taggaatacc atgggatgtc cgtctgttgc taggcgcgcg 60
ggtggtgggg gcccccccta gctaactaaa gatccagtg tgggtggtacg taggaattcg 120
cc 122

<210> 85

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 85

Met Gly Cys Pro Ser Val Ala Arg Pro Arg Gly Gly Gly Gly Pro Pro
1 5 10 15

<210> 86

<211> 112

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 86

ggatcccagt gtggtggtac gtaggaatac catgggattg tcttttgta ttygtctgca 60
gcacgtggg ggcctccct agctaactaa agatcccagt gtggtggtac gt 112

<210> 87

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 87

Met Gly Leu Ser Phe Val Ile Arg Leu Gln His Arg Gly Gly Pro Pro

1 5 10 15

<210> 88

<211> 96

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 88

ggatcccagt gtggtggtac gtaggagtag catgggacct ccgatttggt atactcattg 60
gagtcatggg ggccccccct agctaactaa agatcc 96

<210> 89

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 89

Met Gly Pro Pro Ile Trp Tyr Thr His Trp Ser His Gly Gly Pro Pro

1

5

10

15

<210> 90

<211> 95

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 90

ggatcccagt gtggtggtac gtaggagtag catggaagtc aggcgtttgt gaatactcgg 60

cataaggggg gccccccta gctaactaaa gatcc

95

<210> 91

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 91

Met Glu Val Arg Arg Leu

1

5

<210> 92

<211> 126

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 92

ccggccgtat tcaacaaggg gctgaaggat gcccagaagg tacccattg tatgggatct 60
gatctggggc ctcggtgcac atgctttaca tgtgtttagt cgaggtaaa aaacgtctag 120

gcccccc

126

<210> 93

<211> 107

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 93

ggatcccagt gtggtggtac gtaggaatac catgggactt tagccgggcc cccctagct 60

aactaaagat ccagtggtg tggtacgtag gaattcgcca gcacagt 107

<210> 94

<211> 95

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 94

ggatcccagt gtggtggtac gtaggaatac atgggaactg ttatggcgat gtcggattag 60

gtcgaggggg gcccccccta gctaactaaa gatcc 95

<210> 95

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 95

Met Gly Thr Val Met Ala Met Ser Asp

1

5

<210> 96

<211> 95

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 96

ggatccagtg tgggtggtacg taggaatacc atgggatgtc cgtctgttgc taggccgcgg 60

ggtggtgggg gcccccccta gctaactaaa gatcc 95

<210> 97

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

<400> 97

Met Gly Cys Pro Ser Val Ala Arg Pro Arg Gly Gly Gly Gly Pro Pro

1

5

10

15

<210> 98

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<221> VARIANT

<222> (1)..(5)

<223> The Xaa(s) at postions 1-5 can be any amino acid.

<220>

<223> Description of Artificial Sequence: random
sequence.

<400> 98

Xaa Xaa Xaa Xaa Xaa

1 5

<210> 99

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: histidine tag
sequence.

<400> 99

His His His His His His

1 5

<210> 100

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<221> VARIANT

<222> (1)..(4)

<223> The Xaa(s) at postions 1-3 and 5 can be any amino
acid.

<220>

<221> VARIANT

<222> (4)

<223> The amino acid at postion 4 can be Aspartic acid
or Glutamic acid.

<220>

<223> Description of Artificial Sequence: synthetic.

<400> 100

Xaa Xaa Xaa Asp Xaa

1 5

<210> 101

<211> 48

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic

>
<400> 101

atgggcaaga gaaaaggctc ttaccaagat ctggtggggc ccccttaa

48

<210> 102

<211> 2

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: linker
sequence.

<400> 102

Gly Ser

1